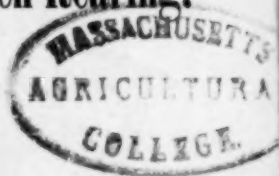


Improving the Race of Bees.

ADRIAN GETAZ.

"Missing Link" in Queen-Rearing.

DR. E. GALLUP.



AMERICAN BEE JOURNAL

43d Year.

CHICAGO, ILL., JAN. 22, 1903.

No. 4.

WEEKLY



HIVING A SWARM.



APIARY OF J. A. WATKINS, OF LATAH CO., IDAHO.

THE AMERICAN BEE JOURNAL

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GEORGE W. YORK.

DEPT. EDITORS,
DR. C. C. MILLER, E. E. HASTY, EMMA M. WILSON

IMPORTANT NOTICES.

The Subscription Price of this Journal is \$1.00 a year, in the United States, Canada, and Mexico; all other countries in the Postal Union, 50 cents a year extra for postage. Sample copy free.

The Wrapper-Label Date of this paper indicates the end of the month to which your subscription is paid. For instance, "dec03" on your label shows that it is paid to the end of December, 1903.

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The Novelty Pocket-Knife.

Your Name and Address on one side—Three Bees on the other side.



(THIS CUT IS THE FULL SIZE OF THE KNIFE.)

Your Name on the Knife.—When ordering, be sure to say just what name and address you wish put on the Knife.

The Novelty Knife is indeed a novelty. The novelty lies in the handle. It is made beautifully of indestructible celluloid, which is as transparent as glass. Underneath the celluloid, on one side of the handle is placed the name and residence of the subscriber, and on the other side pictures of a Queen, Drone, and Worker, as shown here.

The Material entering into this celebrated knife is of the very best quality; the blades are hand-forged out of the very finest English razor-steel, and we warrant every blade. The bolsters are made of German silver, and will never rust or corrode. The rivets are hardened German silver wire; the linings are plate brass; the back springs of Sheffield spring-steel, and the finish of the handle as described above. It will last a last-time, with proper usage.

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GEORGE W. YORK & CO.

Chicago, Ill.

Please allow about two weeks for your knife order to be filled.



An Italian Queen Free — IN MAY, 1903 —

To Regular Paid-in-Advance Subscribers Only.

We wish to make a liberal offer to those of our regular readers whose subscriptions are paid in advance. It is this: We will send you FREE by mail, in May, 1903, an Untested Italian Queen for sending us \$1.00 and the name and address of a NEW subscriber to the American Bee Journal for a year. This is indeed a big premium, as the queen alone would cost you 75c.

We are booking orders for Queens now for next May delivery. Will you have one or more? This offer ought to bring in many orders. Our queens are reared by the best queen-breeders, and give satisfaction.

Address,

George W. York & Co., 144 East Erie St., Chicago, Ill.



ESTABLISHED IN 1861 AMERICAN THE OLDEST BEE-PAPER IN AMERICA BEE JOURNAL

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* Editorial. *

The Pure-Food Bill has passed the National House of Representatives by a vote of 72 to 21. It prohibits the introduction into any State or Territory of any article of food or drug which is adulterated or misbranded. Having gone through the House with so little opposition, it ought to go through the Senate with a whoop; but just by way of making a sure thing doubly sure, it would be a good thing for each bee-keeper to sit him down as soon as he reads this, and compose a short epistle to his Senator, urging the passage of the bill.

Bees Working in a Tent.—In the American Agriculturist we are told that Mr. Bunce tried growing cucumbers in a tent, and not a cucumber set until the doors of the tent were opened to allow the entrance of bees, and then some grew large enough for small pickles. It says further:

"The presence of bees in a tent is considered by Mr. Bunce indispensable to success. He thinks if the doors of the tent were left open in the middle of the day, bees would come in. When asked if other and unwelcome insects would not also enter, he replied that the moth producing the tobacco-worm flies only at night. He says *strawberries have been grown under cloth on Long Island with brilliant success, the fruit maturing two weeks earlier than in the open.* But bees must be allowed free entrance."

Southern Honey.—Some of the bee-keepers in the South object in vigorous terms to having their product called "southern" honey. And why not call it so? Is not all honey produced in the South "southern honey?" And yet it sometimes happens that a thing that looks all right on the face of it may be all wrong. If the term "southern" honey has come to mean honey of a decidedly inferior character, one can hardly wonder that a man who produces what he knows to be honey of a superior character, even though it be produced in the South, should object to having applied to it a term that labels it of inferior quality.

Editor Hill, at present himself a Southerner, voices the sentiment of up-to-date Southern bee-keepers, by saying among other things:

"It is doubtless a fact that the South puts upon the market a larger percentage of low-grade honey than any other section of the country. The unprogressiveness of many sections of the South is well known. The product of the 'bee-keeping' element in such localities, as well as that of other branches, is

necessarily inferior; but this is no reason why the up-to-date producer of the South should have to suffer the stigma which belongs, obviously, to a product which he has not been guilty of placing upon the market."

And this time he is right.

Butter and Honey.—"Honey," says the American Bee-Keeper, "is frequently recommended as a substitute for butter, to spread on bread; but no one appears to have observed the fact that butter and honey constitute a combination that's not at all disagreeable to take."

Yes, that's a combination not to be despised, one that was held in high esteem centuries ago. Said an ancient writer (Isaiah), "Butter and honey shall he eat, when he knoweth to refuse the evil, and choose the good."

General Manager's Explanation.—On page 20 is an editorial on "The Election of the National," in which we called attention to several errors and irregularities, besides giving a letter from Mr. N. E. France, who also asked that a new ballot be taken. The reasons why a new ballot was called for were stated.

We have now received the following letter from Mr. Secor to President Hutchinson, the latter saying, "I think, in justice to him [Secor], it ought to be published:"

FOREST CITY, IOWA, Jan. 5, 1903.
W. Z. HUTCHINSON, Pres. Nat'l B.-K. Ass'n.
My Dear Sir:—I have your recent letter in which you state that there is some dissatisfaction among some of the members of the Association in regard to the form of the ballot recently sent out, and because there were no constitutional amendments submitted.

I am sure that any fair-minded member, when he learns the facts in the case, will exonerate the General Manager from blame in both cases.

The reason why Mr. France's name was mentioned on the voting blank was that he was the *only person* nominated in a proper manner. His name had been regularly presented to the Chairman of the Board, and seconded by at least half a dozen members. It, therefore, came to me officially, and I was obliged to notice it.

It may be said that other names were mentioned through the bee-journals. Granted. I now think I remember one person who nominated *three or four members for the same office* in this manner. By what constitutional provision is the Board of Directors, or the General Manager, required to take cognizance of every suggestion that every person may write to periodicals published in the United States? Why were not these nominations made to the proper officials of the Association? Unless these matters are brought to me officially I can not take the responsibility of indorsing them.

Now, as to the constitutional amendments offered at the Denver convention. How could I submit so important a matter as that to a vote without a word from the Secretary?

In fact, I never saw a copy of them until after the voting blanks had been sent out, and then only a stenographer's report of them.

Dr. Mason wrote me, just before his death, that he had no copy of the proposed amendments; that they had never been turned over to him. If the Secretary of the Association could not certify what the proposed amendments were, how could I be expected to take the responsibility of interpreting them? I said before, and now repeat, that I did not see even a purported copy of the amendments till after the voting blanks had been printed and mailed.

If we do not wish to be governed by constitutional authority why have a constitution?

If we do not practice business methods, and follow parliamentary usages, our Association is but a rope of sand, and not worth saving.

I hope soon to turn over to my successor the records and funds of the largest and most prosperous bee-keepers' association in the world; and if we will stop our quibbling about unimportant matters, and put our shoulders to the wheel in the spirit of fraternal helpfulness, the future of the Association will be brighter than ever; but if factionalism and love of office prevail, it will be rent in twain and die a premature death.

Sincerely yours,
EUGENE SECOR, Gen. Man.

There are several points in Mr. Secor's letter of explanation which we would like to touch on in full, but we must be brief.

In the first place, we contend that Mr. France's name should have been omitted from the ballot, for it was not necessary that any one be nominated at all, nor necessary to print names of nominees on the ballot. Why, a person not previously nominated might have been elected, so the nomination cuts no figure whatever. We can not account for the naming of Mr. France in any other manner, than that some one thought it would be an excellent way to defeat Mr. Abbott, whom the majority of the Board of Directors did elect General Manager last summer.

As to the omission of the amendments from the ballot, Mr. Secor's excuse is rather weak, for he says Dr. Mason wrote him, before he died, about the amendments. It seems to us that a General Manager knowing there were amendments to be presented on the ballot would make at least a little effort to get them. Dr. Mason died the forepart of November, and we did not get our ballot until Dec. 20—surely ample time to find a copy of the amendments if they were really wanted for voting purposes.

We have reason to believe that the intention was not to present the amendments at all, as they were not favored by some in authority. It was the Secretary's duty to get a copy of the amendments before the Denver convention closed, and see that they were forwarded to the General Manager in time for balloting. The General Manager, knowing there were amendments to be voted on, should

have insisted on having a copy of them to mail with the ballot to the members, as provided by the constitution.

We may say further, that we think it will hardly pay any officer to be so red-tape as Mr. Secor's letter indicates he was; surely, it will not tend to inspire confidence in the Association to follow such a precedent. Also, we think it shows poor taste for Mr. Secor to intimate that the "love of office" is inspiring the opposers to unfair methods, who insist that common-sense and ordinary business practice shall be used in the management of the National Association, when Mr. Secor himself has been in the office of General Manager as many years as he has.

No-Drip Cases Without Paper.—Dr. W. O. Eastwood, finding it troublesome to use paper in shipping-cases, poured in melted paraffine, running it clear around the bottom and then pouring it out. That required only a small quantity, and left the shipping-case with no more chance for leaking than if it contained the paper.

Although this plan must have its limitations (for it can hardly be used with 24-section cases having the bottoms in two parts), it is well worth trying by those who are not expert at using the paper in 12-section cases. It will probably be necessary to nail the bottom at the middle to the back and to the front strip, otherwise the weight of the sections might spring down the bottom and break apart the paraffined joint. If the plan is a success, it will no doubt be found easier for the inexperienced than to use the paper.

Of course, the no-drip strips must not be omitted.

Weekly Budget.

MR. C. H. PIERCE, of Columbia Co., Wis., called on us last week. He expects a good season with the bees this year. His are wintering well.

MR. N. E. FRANCE has been talking on fruit and bees at the farmers' institutes in Wisconsin this winter. He knows how on both subjects.

CALIFORNIA BEE-KEEPERS TO ORGANIZE.—We have received the following which will be of interest to California bee-keepers particularly:

TO THE BEE-KEEPERS OF CALIFORNIA:—At the recent session of the State Bee-Keepers' Association, held in this city, the subject of co-operation for the disposal of our product was again presented, and forcibly emphasized by F. E. Brown, the successful manager of the Central California Association.

The necessity of such a movement seems evident to all, but the question of method has been the one great difficulty to overcome. George L. Emerson, the enterprising Orange County producer, presented a plan that met the hearty approval of those present, resulting in the appointment of the following committee to consider and devise a plan of organization: F. E. Brown, George W. Brodbeck, L. S. Emerson, M. H. Mendleson, L. E. Mercer, and J. F. McIntyre. The committee, not being able to complete its task before the adjournment of the State Association, take

this method of presenting it to the bee-keepers at large.

The approaching season, the necessity of prompt and decisive action, have resulted in the committee taking steps to incorporate the California National Honey-Producers' Association. The principal place of business will be Los Angeles; capital stock \$25,000, divided into 500,000 shares, value 5 cents—each share to represent one colony of bees, thus confining this organization entirely to bee-keepers. Sufficient stock has been subscribed to inaugurate this movement, and insure its undoubted success. With the object of enlisting the interest of all bee-keepers, and for them to learn the details of this project, a meeting has been called to be held at the Chamber of Commerce, in Los Angeles, Jan. 20, at 9:30 a.m.

We further desire to call attention to a few reasons why bee-keepers should combine:

First of all, "In union there is strength." By joining together, freight-rates, supplies, and other expenses, are reduced to a minimum.

By marking and sealing our honey we guarantee its purity, thus preventing the possibility of adulteration. The guarantee of purity will increase the demand.

The establishment of uniform prices and grades will prevent individual competition and the consequent depression in prices.

The combination of the small producer with the large one gives strength to the former and removes him from the clutches of the speculator.

The entire management will be in the hands of bee-keepers, with no other interests involved, assuring equal benefits to all. Facilities for storage will be provided. All honey will be graded and sealed by an official grader.

Members will be permitted to retail in less than car-load lots. Advances will also be made on consignments, if desired.

The above are a few of the details which we present for your consideration, and urge your attendance at the meeting called.

GEO. W. BRODBECK, Cor. Sec.

We hope this new organization will prove to be what California honey-producers need in order to control the marketing of their product, so that it may be disposed of in a way that will bring good returns to its members. They have a large contract on their hands, but it is well worth pushing to completion, as we believe it will prove a success when once gotten in working order.

YOUR NAME AND ADDRESS.—We take the following from Gleanings in Bee-Culture, and only wish that it might be read by every person in the world, or at least by all who expect to do any business with others. The experience of The A. I. Root Co., as described in these paragraphs, does not differ from the experience of every other firm:

Every man and woman, and, for that matter, every child, should be urged very early to adopt some particular way of signing his name and address. Yes, as soon as a child can write his name he should be urged to adopt some particular form. If he decides to use only initials, let him always do it the same way. If his name is Smith, in view of the great number of Smiths, he would better spell out in full his first or second name; but, having once decided (perhaps by the aid of his friends) just how he is going to make his signature, let him stick to it. And he should also be encouraged to have a rubber stamp to put on his stationery, so that all can know in plain and unmistakable letters just what he is called, and how he is addressed. Married women especially should heed the above. It is a woman's privilege to write her name Mrs. John Smith or Mrs. Susan Smith; but she should be urged to do always one or the other. A few days ago "Mrs. John Smith" complained that she sent us some money, and we did not give her credit. After much fuss and bother our book-keeper found she signed her name Mrs. Susan Smith, and wrote from

a different postoffice from what she had ever written before, and, therefore, the book-keepers were obliged to open an account with Mrs. Susan Smith at some other postoffice; and hadn't one of the employees happened to remember some honey being placed on the book where no account could be found, I do not know what would have been done.

The better way, by all means, is to have your correct name and address printed on envelopes or writing-paper, one or the other, or both. It can be done for a few cents. But if this is too much trouble, then get a rubber stamp, and stamp everything you send out, not only to save this great, busy world time and money, but to save yourself annoyance and disappointment. Lots of people make haste to call great business firms dishonest, just because these people themselves have not got enough life and push to avoid the trouble of blundering addresses, as I have indicated in the above. If you can not scrape up enough energy to let folks know who you are, and where you live, in black and white, you ought to have been born a century or two ago, when it did not matter so very much whether the outside world knew whether you were alive and kicking or not.

REV. L. L. LANGSTROTH A PRESBYTERIAN.—It seems from the following that through an oversight, or lapse in memory, we made an error in reference to Father Langstroth:

MR. EDITOR:—In that delightfully gotten-up periodical, Class Advertising, an article appears which was written by the Editor of the American Bee Journal, all of which I can indorse except the statement that the movable-frame hive was invented by Rev. L. L. Langstroth, "a Congregational clergyman." Father Langstroth would be neither a better nor a worse man for being a Presbyterian rather than a Congregationalist, but it is just as well to be accurate in regard to everything pertaining to one who played so prominent a part.

When 26 years old Father Langstroth was, for two years, pastor of the Second Congregational Church in Andover, Mass., but many years ago he became a Presbyterian. When preparing for Root's "A B C of Bee-Culture" a biographical sketch of Father Langstroth, desiring to be entirely correct, I wrote to him, and in reply he said, under date of March 26, 1888:

"I am now a minister in the Presbyterian church. Although not a settled pastor, I preach occasionally, and delight in nothing so much as the Christian work. My parents were members of Mr. Barnes' church, the mother Presbyterian church in the United States."

I have good reason to believe that he continued in the same connection during the remainder of his life. Last summer, when giving a talk before the Winona Assembly, I spoke of Father Langstroth as a Presbyterian clergyman. Afterward, one of my auditors made the correction that Mr. Langstroth was a Congregationalist. The pastor of the Presbyterian church at Dayton, Ohio, who happened to be present, replied, "Mr. Langstroth was a member of our presbytery, and it was while preaching in my pulpit that he fell dead."

C. C. MILLER.

Of course, it is always best to be exactly correct in all statements, but, really, isn't there just about as much difference between a good Congregationalist and a good Presbyterian as there is between tweedledum and tweedledee? We would think just as much of Dr. Miller if he were a Methodist instead of being a Presbyterian! But, after all, it is not the particular denomination that a man belongs to, but his Christian living that counts, not only in the present time, but in the Eternity beyond, if the Good Book be true.

However, we want to thank Dr. Miller for calling our attention to Father Langstroth's Presbyterianism. We will try to be more careful the next time we have occasion to refer to it.

Convention Proceedings.

Report of the Ontario Bee-Keepers' Convention,
Held at Barre, Ont., Canada, Dec. 16, 17
and 18, 1902.

REPORTED BY MORLEY PETTIT.

(Continued from page 39.)

UNITING LATE SWARMS.

"How and when would you unite late swarms?"

In August and September. Set one on top of the other.

Mr. McEvoy—Unite them in the evening. Get the bees to fill themselves, then shake the bees of one hive down on the entrance of the other, and let them run in. Smoke them well.

Mr. Heise—Remove from each hive all the frames not occupied by bees. Lift the remainder with the bees on them out of one hive into the other, and the deed is done.

BEST WAY TO FEED LIGHT COLONIES.

"What is the best way to feed colonies put away too light, no combs of honey being available?"

Feed them cakes of candy put over the frames. This does not disturb them much, and by absorbing the moisture the candy gradually liquefies and also adds to the dryness of the bees.

Mr. Evans told of a man who bored a hole in the top of a box-hive which he had in the cellar, poured in a little feed every few days, and the bees wintered well. He did not recommend this method as one to be generally adopted, however. Mr. Holtermann would feed two or three pounds at one feed, then run the chances on saving them by feeding the first thing after they come out of the cellar. A shallow pan shoved in under the combs on the bottom-board is used in Germany for this purpose.

Mr. Armstrong—I have fed bees syrup every month in the year except February and March. I use a feeder in a super on top of the hive.

Mr. McEvoy—This would be all right for strong colonies, but no good for weak ones.

EVENING SESSION.

The following paper was written and read by W. J. Brown:

WHY I AM A BEE-KEEPER.

This may be considered a very simple subject indeed. I often thought that something outside of the ordinary worn-out subjects of spring management, summer management, the best method to produce comb honey, extracted honey, etc., at our annual reunions was necessary in order to make them a little more interesting. But I hesitated for a time, then after seeing a synopsis of the program for this meeting in the October number of the Canadian Bee Journal, and seeing your humble servant was down for a paper, and that, about the first paper on the list, and without any subject assigned me, I scratched my head for a time, not knowing whether your executive committee was only having a little fun with me on account of my Hibernian strain or not; and I finally concluded that in all probability that was the case, particularly so when they selected that clever young Dutchman over there to knock me down faster than any two of you could pick me up.

My first impulse was to present you with something a little more out of the ordinary than even the one which I have adopted; but remembering that some one, a few years ago, brought in some subjects that received pretty hard knocks because those subjects did not treat directly on bee-lore, I concluded that such ground would not be safe for me to tread upon, and so I decided to tell you why I am a bee-keeper.

First, because of a natural fondness for honey—a fondness that never relinquished its hold, and I never expect that it will. Well do I remember when I was a "kid," how I used to rummage the wild bumble-bees' nests; even to get one drop of sweet nectar made my heart glad.

As manhood advanced, so also my ideas; so then to my joy a box-hive of bees I bought.

My second reason for being a bee-keeper was that my

instinct of nature led me on to search, and, if possible, find out the mystery of the mysteries connected with the honey-bee in those primitive days—at least primitive they were to me, as I had not the opportunity of studying standard works on the honey-bee, and bee-papers galore, as you, fellow bee-keepers, have to-day. Yet every moment and every hour of my time that I could possibly spare from other pursuits was taken advantage of in the study of my little workers, and thus add to my joy and knowledge.

My third reason for being a bee-keeper was the great pleasure of having honey (Nature's sweet) on my table three times a day the whole year round, and at being able to treat my friends and neighbors to a feed of honey when they come in; and at hearing the hum of the honey-bee in the apple-tree, the clover field, and elsewhere.

My fourth reason for being a bee-keeper was the financial side of the question, as I had an idea for a long time that there was more money in bee-keeping than in any other line of business on the face of this broad earth. But while my taste for honey is as keen to-day as ever, and my appetite for research in the mysteries of the honey-bee is as ravenous as it was a quarter of a century ago—and there is little even yet that affords me more pleasure than to be able to treat my friends and neighbors to a little honey, and to hear the merry hum of those dear little honey-bees, when they are in the clover and buckwheat fields—I must say I am slightly disappointed in my fourth reason for being a bee-keeper, viz.: the financial side of the question. True, with proper care and management on the part of the manipulator there is money in bee-keeping, but for the one who has made a pile out of it a dozen have made a failure. For my individual part, I have nothing to complain about, in having taken it up as a pursuit, as I like the honey, I like the bee, I like to work among them, and I like to see the dollars come in as the result of my being a bee-keeper.

And now look out and see how Mr. Heise will come along like a hewer in a lumber camp, with his broad-ax, and make the chips fly. But I am here on the ridge-pole, and can fight bees, wasps, or even Dutchmen, as well as any one. So, roll up your sleeves, and get ready to pitch right in and make things lively for a little while, anyway, even if you can not lick me, by showing Mr. President and the cream of bee-keepers of this banner Province of Ontario assembled here this evening, some better reason why you are a bee-keeper than I have shown you why I am a bee-keeper.

W. J. BROWN.

Mr. Heise—These reasons would fit most of us, and perhaps the financial reason is the greatest.

SPRING MANAGEMENT.

R. F. Whitesides read a paper on "Spring Management."

Mr. Post—For outside wintering we want things tight and dry, and good packing on top of the hives. Great care must be exercised in spreading brood, not to do it too early in the season. Cellar-wintered bees should be kept in until they can be set out to stay.

Mr. Fixter—Bees should be set out early. We set some out this year on March 22, with a foot of snow on the ground, and they did all right.

Mr. Miller—Queen-clipping should be done in fruit-bloom.

Mr. Dickenson—If snow is on the ground when bees are to be set out, sprinkle some straw around the stands.

Mr. Pettit—Clipping with us in southern Ontario should be done before fruit-bloom, else the hives are so full of bees it is difficult to find the queen.

Mr. Darling sees no advantage in waiting for a suitable day to put the bees out. When the time of year comes put them out in the evening, and they will be quiet until a suitable day comes for them to fly.

Mr. Heise—Early clipping refers to cellar-wintered bees. For those packed outdoors, we do not like to unpack them until it is time to put supers on. I have also noticed that in a prosperous colony it is often easier to find the queen than in one that is very weak.

SPRING PACKING OF CELLAR-WINTERED BEES.

"Would you advise packing in spring for cellar-wintered bees?"

Mr. Miller—I used to do it, but don't any more.

Mr. Holmes—Put newspapers under the cover.

CARING FOR EXTRACTED HONEY.

"How take care of extracted honey?"

Mr. Miller—Put it into cans or barrels as soon as pos-

sible, and store in a dry, warm place. Do not leave it exposed to the air.

FREED COMBS OF POLLEN.

"What is your method of freeing combs from an overabundance of pollen?"

Mr. Gemmill—Spray them with a fine spray, then throw out the pollen with the extractor.

DEAD BROOD—WIRING FOUNDATION.

"Dead brood in the hive a few days after casting a swarm. What is the cause? The result?"

Mr. Dickenson—This may be caused by turning the parent hive around too often, and so depleting it of bees for the sake of the swarm.

"Is it advisable to wire foundation?"

Mr. Miller—Yes, it enables me to use section foundation in shallow frames.

Mr. McEvoy uses seven vertical wires in the frame, laced back and forth from staples in the top-bar and bottom-bar.

There was a division of opinion on the advantage or disadvantage of wiring, some of Canada's most successful bee-men being on either side of the question.

HIVE-ENTRANCE FOR OUTDOOR WINTERING.

"What size entrance do you prefer for outdoor wintering?"

Mr. Miller— $\frac{1}{2} \times 1\frac{1}{2}$ inches.

Mr. Holtermann—Whatever style of entrance we have, the top packing must be porous enough to allow of upward ventilation. If the change of air has to be accomplished by the entrance alone, the bees must exert themselves to create a draft, and this is not good.

Mr. Sparling—The nature of the packing above has much to do with good wintering.

Mr. Armstrong could not see that it made any difference whether the top packing was tight or not. The entrance should be $\frac{3}{8} \times 5$ inches.

Mr. John Fixter then read the following description of experiments on the question,

DO BEES INJURE SOUND FRUIT?

During the summer of 1901 an experiment was started when there was no surplus honey to be gathered from plants outside, with ripe fruit of four different kinds—peaches, pears, plums and grapes. These were exposed in different places near the Experimental Farm Apiary, where it was easily accessible to the bees. This experiment was continued during the season of 1902, with the addition of strawberries and raspberries. All fruit was placed in the same position as in the experiment of 1901.

On July 2, 1902, ripe fruit of four sorts of strawberries was tried in each place—the Williams, Clyde, Buback and Warfield—exposed in different places where it was easily accessible to the bees: a, Inside the bee-hive; b, On branches of trees in the apiary enclosure; c, On shelves in a workshop, to which bees had access through an open window. Every care was taken that all the fruit used in this experiment should be perfectly sound.

Fruit exposed inside the bee-hives. The fruit was exposed in three different conditions: 1, Whole fruit without any treatment; 2, Whole fruit that had been dipped in honey; 3, Fruit that had been punctured in different places with the blade of a pen-knife.

Four colonies were selected for the experiment, all of about equal strength. Each of these colonies was in a hive upon which was placed a super divided in the middle by a partition. In each one of the four hives the whole specimens, of fruit not dipped in honey, were placed within three empty frames, tied together as a rack; in the brood-chamber, the whole specimens of fruit dipped in honey were placed in one compartment of the super, and the punctured specimens were placed in the other. The bees began to work at once, both upon the dipped and the punctured fruit, and kept continually on it as long as any liquid could be obtained. They also clustered thickly on the whole sound fruit, but did not appear to be getting, or even trying to secure, any substance from the berries.

Fruit exposed on the shelves in a workshop the bees did not visit at all, nor on branches of the trees in the apiary; in the two latter places the fruit appeared to dry up and mold. In the hives all fruit decayed more quickly from the extra heat from the bees; this experiment was tried but one week.

July 29, experiment with four varieties of raspberries—the red, purple, very light-colored, and the black-caps.

Each box contained some of each sort. They were placed in hives in exactly the same position as the strawberries. At this date there was considerable honey coming in. The bees did not touch any of the fruit in the hive, super, trees, nor in the house-apiary. On July 31, half of each sort of berries that were sound were cut in halves to see if they would attack the fruit, but they did not touch any of them. All the sorts in the hives decayed much sooner than the fruit exposed. That exposed to the air dried up considerably and molded.

A second test has been made with peaches, pears, plums, and grapes, with practically the same results. The bees actually starved where separated from fruit-juice only by the skin of the fruit.

JOHN FIXTER.

COMB FOUNDATION EXPERIMENTS.

Mr. Fixter also reported some experiments with foundation from the results of which he recommended hiving swarms on combs or full sheets of foundation. He also recommended alternating combs with foundation to get the latter drawn out.

Mr. Evans thought it not desirable to put foundation between combs in the super. The combs will be bulged, and the foundation will only be slightly drawn out. When you come to extracting you will have thin, tender combs which you can scarcely extract.

Morley Pettit—This will not happen if the foundation is alternated with frames of brood; but the best place to have combs built is in the super. The bees will there build the combs fast to the bottom-bar much better than in the brood-chamber. In order to avoid the bulging mentioned we have what we call a "foundation separator" to place between the comb and the foundation. This helps sustain the weight of the bees and relieves the foundation of that sagging influence, and causes them to build full, even combs.

Mr. Sibbald—I consider hiving swarms on combs a waste of combs—a bad thing; hiving on foundation is half bad; on starters is just right. We want all the combs we can get for the extracting-supers. Give a swarm a hive full of combs, and the queen will soon fill them with brood. Now, if you have a short honey-flow you have a lot of useless bees hatching out just at the close of the honey-flow. We don't mind drones—the workers will kill them off.

Other members were skeptical about the economy of the last statement.

Mr. Chrysler—If we hived swarms on combs for comb honey they would store honey below instead of in the sections, and then swarm.

Mr. Sibbald—The parent colony has good combs and a young queen. If you do not wish increase, the swarm can be returned at the close of the honey season, and the poor combs melted up.

Mr. Pettit—If the swarm is hived on about six starters, and the rest of the hive filled up with dummies, a large percentage of these starters will be built into good worker-combs. The rest make good extracting-combs, and are all the better for having been bred in once—they are stronger, and less liable to break in the extractor or in cold weather.

Mr. Sibbald—If I hived my swarms on six starters they would not stay.

Mr. Pettit—Very well, then; hive on a full set of starters, and in a couple of days remove what starters they have not begun work upon, and put dummies in their place.

Mr. Newton and others indorsed Mr. Pettit's view, but Mr. Sibbald did not consider this a "short cut."

Mr. Sparling—In a few weeks you can replace the dummies with combs.

Mr. Sibbald is not particularly anxious for worker-combs. These combs are tougher for having been bred in once.

Mr. Miller—They should be washed before using.

Mr. Dickenson—After the first extracting I can see no difference in them.

(Continued next week.)

Why Not Help a Little—both your neighbor bee-keepers and the old American Bee Journal—by sending to us the names and addresses of such as you may know do not now get this journal? We will be glad to send them sample copies, so that they may become acquainted with the paper, and subscribe for it, thus putting themselves in the line of success with bees. Perhaps you can get them to subscribe, send in their dollars, and secure for your trouble some of the premiums we are constantly offering as rewards, for such effort.

Contributed Articles.

No. 6—Improving the Race of Bees.

BY ADRIAN GETAZ.

(Concluded from page 534—1902)

I WANT to begin with an apology. In a previous article I said that the West cages cost too much. Somehow or other, I had in my head an idea that the price is 25 cents apiece. I discovered since then that they are much cheaper.

Near the top of page 518 (1902), the compositor seems to have skipped a line. What I meant to say was: "Perhaps plenty of food and big cells go together, and we know that good queens and plenty of food do go together."

SOME CRITISMS ANSWERED.

I wish to answer briefly some criticisms which have been made.

I am accused of being too dogmatic. That fault is more apparent than real. I used to write differently, but I was very often misunderstood, or something essential had escaped the attention of the readers and spoiled the contribution. This has led me to adopt a clear-cut, positive style of writing.

The "theories" concerning heredity, etc., that I have tried to condense in these contributions, are the conclusions reached by hundreds of scientists, eminent thinkers, stock-breeders, etc., during the past two or three centuries. As such, they are entitled to some consideration. To what extent I have succeeded in "condensing" is, of course, another question.

A critic not finding some things that he thought ought to be there, charitably (?) suggested that perhaps I did not know. The fact is I had to leave out a great many things in order to keep within the limits of space at my disposal.

I am also accused of ignoring the recent discoveries in beedom. I suppose reference is made here to the Gerstung and Dickel theories. In my opinion these theories (at least for the present) decidedly "lack confirmation."

To avoid misunderstanding, I should have stated that the drones reared in worker-cells cannot pass through the ordinary perforated-zinc.

INFLUENCE OF NURSE-BEES.

I said that the characteristics of nurse-bees, such as color, aptness to gather honey, etc., are not transmitted to the larvæ they feed. That statement has been challenged. The critic says that if corn is planted in a soil containing hyposulphite of magnesia, the young plant will bear blossoms quite different from that of corn.

The point is quite important as it has a bearing on queen-rearing. Suppose we have a Jersey calf. Does any one think that by feeding it with milk from a Shorthorn cow that the calf would acquire the color, disposition of taking fat, etc., of the Shorthorn stock? Not at all. And we may safely conclude that it is the same with bees, at least until positive proof of the contrary is given. There cannot be anything like hyposulphite of magnesia in the food given to the larval bees. That food is a mixture of honey, pollen, and secretions of the stomach-glands of the bees, the whole partially digested before being given to the larvæ. The composition of that food is practically invariable, so it matters not which race of bees we employ as nurses. But it matters very much whether enough of that food is given to our young queens or not, or whether they are well cared for or not. The three following conditions are therefore imperious:

1. Plenty of food—or rather raw material for same—nectar or feed.
2. A large number of nurse-bees to prepare the food and take care of the young queens.
3. A colony strong enough to keep up the temperature.

I want to insist on that last condition, as it is seldom noticed. It is necessary that the proper temperature should be kept up, not only during the larval stage of the young queens, but also until they are ready to emerge from the cells.

When the cells are capped the young queens are, after all, not much more than mere worms. The real development takes place while they are in the sealed cells. Unless

the temperature is at the proper point, this development will not take place as it should. Cases are on record of queen-cells exposed to the cold hatching out queens with defective wings and legs, and very probably with defective interior organs, also.

QUEENLESS COLONIES VS. UPPER STORIES.

Both can be used, evidently. But in using an upper story, it must be remembered that the bees have then a full quota of brood to take care of in the lower story, and if the apiarist is not careful the upper story may be neglected.

I prefer a queenless colony, adding (by exchange) a comb or two of hatching brood from some other colony every few days. This process will keep up the strength of the colony especially in young bees, and, as there is but little brood to take care of, the young queens, even if they are numerous, will be well cared for.

NUCLEI VS. FULL COLONIES.

Somebody said as good queens as any have been reared in even small nuclei. I guess so. I also guess that worse queens than any have been reared that way, too.

I don't see why good queens could not be reared in nuclei, if the nuclei are not too weak, if the weather is warm enough, and if the honey-flow is good. But let the weather be cool, and a nucleus will not be able to keep the temperature up to the proper point. Let the honey-flow slack, and robber-bees set up business; then the whole force of the nucleus will be needed for the defense of the home, and the care of the young will be neglected.

(THIS IS NO JOKE.)

About a year ago now, I met a brother bee-keeper, Mr. X.

Mr. X. had just read something about artificial queen-rearing, and was quite enthusiastic about it. He gave me a glowing description of it.

Unfortunately, his memory was at fault on some points. He spoke all the time of transferring eggs instead of larvæ. As soon as I saw my chance, I asked him: "Brother X, you say they put the stick of cells and eggs in the gum. Now the cells are turned down. 'Pears to me that those eggs ought to fall off?"

Brother X looked very much embarrassed, scratched his head once or twice, and all at once brightened up and said: "Oh! They just put a little bit of thick honey in the cells, and the eggs stick to it!"

Knox Co., Tenn.

Experience with Forced Swarming.

BY J. T. HAIRSTON.

I HAVE had considerable experience with forced swarms. I wish to say there is no difference between them and natural swarms, if rightly made. What applies to one applies to the other, and practically there is nothing new in them. Transferring by drumming is identically the same.

As to forcing before or after cells are started, it doesn't make any difference; only if the apiarist has as many colonies as he wishes, he should force only those that have cells started, as they would swarm anyway.

I have found by experience that giving a frame of brood does no good, but harm. I tried giving brood until I found the bees would stay far better without brood; and as to giving honey, after the swarm has become established it is all right, provided the bees are not gathering any honey; otherwise it is useless.

If the colony is run for extracted honey it doesn't matter whether the bees are hived on drawn combs; if run for comb honey, hive on 1/2-inch starters, or full sheets of foundation, but never on wide starters.

If hived on starters, after the queen begins to lay, three frames should be removed, and space filled with dummies; and after the five frames are filled with full sheets or drawn combs. The super should be put on the hive when the swarm is hived, partly filled with "baits," with a honey-board on.

If the swarm has plenty of room, ventilation, and shade, until it has become established in its new home, it is not likely to abscond. But I have found that if a frame of brood is given it begins, usually, to construct cells preparatory to swarming.

If, as I previously stated, a forced swarm is rightly made it is not likely to desert its hive. The bees should be made to fill themselves with honey, and be treated like a natural swarm.

Forced swarming is a boon to the specialist with out-yards, as he can handle his bees with less help, as one day in the week is all the time needed for each yard. He can examine each strong colony, and all that are preparing to swarm can be shaken, and there's no watching for swarms. Cherokee Nation, Ind. Ter., Dec. 29.



The "Missing Link" in Rearing Queen-Bees.

BY DR. E. GALLUP.

SOME forty years ago, when I first moved to Iowa, I saw the largest and strongest colony of bees that I had ever seen, up to that date. They were in a hollow basswood log, and the queen was the largest, by nearly one-third, that I had ever seen. The log contained as much comb as four 10-frame Langstroth hives, and all was worker-comb. Here was where I first saw the "missing link," and the largest queen-cells that I had ever seen.

That fall I saw, at Decorah, another large colony in a dry-goods box, and another extra-large queen. It seems the owner had four large swarms to cluster together, and, not knowing how to divide them, had hived them all together, and they had built all worker-comb.

The following spring I found another extra-large colony in a hollow butternut-tree, and when I transferred them they had another of those extra-large queens and all the comb was worker-comb. Previous to this, in Wisconsin, I took an extra-large colony out of a small house four feet square, by six feet tall, built on purpose, and stocked by setting a common box-hive on sticks at the top of the house without a bottom-board, consequently the bees had extended their comb down and outside the hive, and all was built worker-comb. I studied long and seriously on the question of why those extra-large colonies and extra-large queens. I reasoned that the queen must be extra-prolific, and the bees must be longer-lived, or they could not keep so populous winter and summer, year in and year out.

Therefore I built my large hives to test the question, and other questions that puzzled my mind. I filled those hives with all worker-comb, and after superseding the first queens I had extra-large queens, and long-lived ones, and long-lived workers as well, and I demonstrated to my own satisfaction that bees reared queens to suit the capacity of the hive, to a certain extent. Remember that I was not ridiculed into this idea, and I don't think it very likely that I shall be ridiculed out of it in a hurry.

On page 696, E. F. Atwater says: "Now the larger part of our bees are run for extracted honey, with little or no swarming." A little farther on he says: "How shall we explain the fact that the Dadants have so little swarming with their large hives?" Simply because they run for extracted honey, and manage purposely to prevent swarming, as they have informed you in back numbers of the American Bee Journal. Further on, he says: "Astonishing to say, when given the opportunity, they respond nobly, with 10, 12 or 15 frames of brood." Well, who said they would not? But will they keep it up for 5 or 6 years? That is the "question before the house."

I wrote an article for publication, a number of years ago, and asked this question: If one or more colonies in an apiary produce twice as much honey, and twice the number of bees, of the balance of the hives, in the same apiary, why can not we rear queens and bring the balance, approximately, up to that standard? We certainly can. "If not, why not?" If one or more queens will lay eggs right up to the full capacity, for 5 or 6 years—and even then examine them as closely as we may, we cannot see any diminution of the number of bees in the colony, when the bees supersede her—can we not rear other queens equally as good? "If not, why not?"

If we can rear 10 percent of our queens good, and 90 percent poor, why not rear 90 percent good, and only 10 percent poor? If the bees in one colony live to be 90 days old in working season, and another colony lives to be only 50 or 40 days old at the same time, and in the same apiary, what is the cause of the difference? If we rear our queens in small nuclei, and they cease their prolificness at the age of from one month to one or two years, and they are small and inferior in size when compared with those reared in extra-large and populous colonies, and those reared in the nuclei lack the missing link, while those reared in the populous colonies have that appendage, what is the cause? Of course, I mean under the swarming impulse.

Now, Mr. Atwater, you have the same privilege of

learning that I did; I studied and answered all those questions, and more, long and seriously, and I may say intensely, and I answered them satisfactorily, at least to myself. Do not theorize as many do, but confine yourself to actual facts. Theory is not practice. As I have never reared queens for sale, and never expect to do so, no one can accuse me of seeking a free advertisement of my queens.

Remember, at my age it is quite a task to sit down and write an article for publication, and go into all the minute details, all the whys and wherefores, so that the merest novice in bee-keeping can comprehend what is meant, perfectly and understandingly.

Soon after I learned to drum out, and make artificial swarms, by Mr. Wellhausen, in Wisconsin, bee-keepers sent for me far and near to divide their colonies. We knew nothing of movable-comb hives then. Well, I worked at it more or less for two seasons, and in the meantime I divided my own bees, instead of waiting for them to swarm naturally, and I began to notice that the old colony that was compelled to rear a queen did not appear to do as well as they ought. Many of them became queenless, etc. This puzzled me. I studied long and seriously over it, but did not find any solution to the question. When I divided nearly 100 colonies and found dead queens in front of the hives, and some queens crawl out of the hives, and crawl off when only four weeks old, I was puzzled still more. I had begun to use movable-comb hives; then I had no such trouble when my bees swarmed naturally.

When I found the first missing link I cut out all extra cells, to prevent swarming; I examined every cell, but found no missing link in a single cell. Then I began to think I was mistaken, and never had seen a missing link. But I finally stumbled onto one in a naturally-built cell; then I soon discovered that I could find them every time when dissecting natural cells, built at swarming-time, or when superseding. It was a very easy matter then to come to the conclusion that they were placed there by Nature for a purpose, Mr. Alley to the contrary notwithstanding. The reader will please notice that Mr. Alley tries to ignore or deny that it is of any benefit whatever. But Nature makes no useless mistakes of that or a similar kind. His argument will not even hold water. Orange Co., Calif.

Our Bee-Keeping Sisters

Conducted by EMMA M. WILSON, Marengo, Ill.

"I Don't Know"—Probably Counted All.

MR. EDITOR:—Do you think Mr. Hasty meant anything wicked by what he said about the donkeys on that title page? How many do you think he counted?

Honey for Putting Up Fruit.

Honey used in caramels is delicious, and in some kinds of cookies and cakes I think it better than sugar. Now, the question is, Can fruit be put up with honey successfully? and is it as good as sugar? Have any of the sisters tried putting up fruit with honey? If so, what kinds of fruit have you put up? How much honey did you use? What kind of honey did you use? What was the result? Please tell us all about it.

Shade-Boards vs. Living Shade.

On page 9, Mr. Hasty says: "Mr. W. R. Ansell is right to the extent that a good and sufficient shade-board is a little ahead of any practicable living shade. May play truant, and be absent when needed most, which the latter does not do. Page 728."

Now, my bee-keeping sisters, let the men-folks work in the broiling sun if they want to, but don't you be misled by any such sophistry. Those shade-boards may do as well for the bees as living shade, but how about you? If I had to work with bees on an open plain without any shade, I don't think I would work with them long. For one thing, the men don't care for their complexions; we do. If you have out-apiaries, and those shade-boards have to be placed

on the ground when a storm approaches, or there is danger of their blowing away, then I think they will do exactly what Mr. Hasty says they won't do—"play truant."

A serious objection to shade-boards, aside from their not shading the bee-keeper, is the fact that they have to be taken down and put up again every time a colony is overhauled. That would take both time and strength.

My ideal would be to have, if possible, living shade for the bee-keeper, and where that can not be had the next best thing is to have a movable shade. This I have greatly enjoyed.

So far as the bees are concerned, if they can not have living shade, the right thing is a double cover of thin material. Even if there is living shade, such a cover is a desirable thing, for the dead-air space makes it cool for summer and warm for winter.

Remedy for Hoarseness.

The juice of a lemon, half an ounce of glycerine, half an ounce of honey, is an excellent remedy for hoarseness, and is easily prepared. Take a teaspoonful every few hours.

Wetting Brittle Sections for Folding.

If you have sections that you have kept over from last year without making up, and they have become dry and brittle, breaking badly when bent, try pouring a little boiling water in the V-grooves, but be careful not to get the water on the dovetailed ends of the sections, else you may have trouble in putting them together. The sections usually come 500 in a crate, and you can wet the whole 500 at one time. You would better take out a few of each layer, then wedge them up tight before wetting. If you don't take any out, they will swell after they are wet, and will be wedged in so tightly that you will have trouble in getting them out.

To take them out easily before wetting, turn the crate on its side, then the ones that are left will not tumble when some are taken out.

If you take a funnel and put in a plug whittled down to a sharp point at the lower edge, leaving room for only a small stream of water to pass through, and hold the funnel directly over the grooves, pour the hot water into the funnel and move quickly along the line of grooves, you will find it works well. A small tea-kettle about half full of boiling water makes it easier to manipulate without spilling the water where you don't want it to go. Be sure the water passes clear through to the other side of the crate, so that all the sections will be wet.

Some advise putting sections in a damp cellar before using, but I believe the hot water is better.

You may think it a little early to talk about making up sections, and perhaps it is, but it is better to be too early than too late, and really they can be made up any time during the winter whenever you find time for it.

Husking-Bees.

Miss Rural—And were you never in the country during the season for husking-bees, Mr. Sappy?

Mr. Sappy—No. The idea! How do you husk a bee, anyway?—Philadelphia Press.

The Buffalo Convention Report is issued in pamphlet form, size 6x8½ inches, 80 pages and cover. Besides a full report of the proceedings of the 32d convention of the National Bee-Keepers' Association, held in Buffalo, N. Y., Sept. 10, 11 and 12, 1901, it contains fine half-tone portraits of all the officers and directors of the Association; also the Constitution, a list of the membership up to the end of 1901, and the two latest bee-songs—"The Hum of the Bees in the Apple-Tree Bloom" and "Buckwheat Cakes and Honey." We believe it is the finest ever gotten out for the Association. Of course, all members of the Association receive a copy free, but there are thousands of our readers who are not yet members, but who should have this valuable Report. Better send for a copy, if you have not yet received one. Price, postpaid, 25 cents, or with the American Bee Journal one year—both for \$1.10. Send all orders to the office of the American Bee Journal. Better order soon, before all are gone.

The Premiums offered this week are well worth working for. Look at them.

* The Afterthought. *

The "Old Reliable" seen through New and Unreliable Glasses.

By E. E. HASTY, Sta. B Rural, Toledo, O.

JOINING "THE GREAT MAJORITY."

I am so got up, somehow or other, that I cannot see a statement which involves a false idea without a certain measure of distress. Am I unusual in that, or are there lots of other folks affected that way? And is it a good way to be got up, or is it a misfortune? On page 773 it is said that the rest of us will soon be called to join "the great majority." This figure of speech is accepted by nearly everybody. If we think of the whole world, and all time, the expression is in accord with facts; but we don't carry the whole world in our thoughts. We are thinking about the present races in our own country, that our dead are much more numerous than our living. Believing this implicitly, I once (for what reason I cannot imagine) started in at a little study and figuring to answer the question, *When did our dead become a permanent majority?* The result astonished me; perhaps it will astonish those who read this—they can easily verify the figures. Our living are 76,000,000; our dead have not nearly attained that figure yet. The next discovery was also surprising in its way. The dead *never will be* a majority till the present rate of increase stops. Take our total population at successive periods, not too far apart, and (be careful there, not to kill the same person twice!) divide the great flocks into dead and living—the earlier ones of course all dead. Or apply a reasonable death-rate per thousand to the figures of each successive census.

PUTTING IN FOUNDATION WITH A SCREW-DRIVER.

And so Mr. Abbott still puts in foundation with a screw-driver. I don't know what we are going to do about it. As long as the foundation goes in—goes in as well and as rapidly as he cares to have it, 'spects we'll have to submit. Even if he picks cherries with his mouth instead of his hands, he must be the boss. Page 773.

THE BEST MANAGEMENT.

"He who can so manage as to exchange all surplus bees grown during the season, for honey, and come out with the same number of colonies he started out with, has solved the problem best."—F. Greiner, page 776.

Just so. In religion folks oft think they *have* the graces because they can tell about them in words; but in bee-culture I don't think many will make a similar mistake about the above. Good to have the things in words, and to repeat the words o'er and o'er; but though we watch, though we fight, possibly though we also pray, most of us are going to fall short. Those words occur in a meaty article. The *experiences* that shaken swarms sometimes abscond even when brood is given them, and that once a shaken swarm managed to come to nothing with an entrance-guard on—these experiences are valuable, lest we run too much to theory on current fads.

BEAUTY AND GOODNESS A SPAN.

I don't know but it's time to say once again the little word that there is to be said on the other side—have heard so *very often* the manifest truth that beauty in bees is not what we want. Sure, and it is'nt—but just listen: The scrub cow has no beauty, and her milk is blue. The Jersey is delicately beautiful, and her milk is surprisingly rich. Beauty is not what is wanted in this case; but somehow the beauty and rich milk are pretty sure to be found in span. Same of the nice-looking Holstein. Her looks are an outward and visible sign that she can lick the scrub out of her boots in the number of gallons. 'Spect it's rather the rule than the exception that a valuable quality has some look—*usually a nice look*—that sticks closely to it. But this is no excuse for the scandal of selling mere prettiness when nobody knows or cares what the honey-qualities are. Page 776.

THE "LAYING HABIT" OF QUEENS.

And isn't W. J. Stahmann *away off* in thinking that limited laying for the first week or two is going to do anything to make a young queen unprolific? Reasonable that laying habits running the whole first season might persist

through life, *providing it's so*. And, in good sooth, the other, in case it's so, is much more important for us than if it looked reasonable. Reasonableness can probably be found later on, if the fact is assuredly just as claimed. Is a queen like a rocket? A rocket held down for a very short time is going to fly lower on account of it. Page 776.

EMPTYING HALF-FILLED SECTIONS.

The experience of Edwin Bevins is that with a super bottomed with burlap in such a way that the bees can only get through a hole at one end, they empty half-filled sections pretty promptly. Wonder how often this will fail. Suspect that *sometimes* a weak colony will vote that the chamber is a little cool, and they can just as well bring down the honey some other day. Page 781.

Questions and Answers.

CONDUCTED BY

DR. C. C. MILLER, Marengo, Ill.

[The Questions may be mailed to the Bee Journal office, or to Dr. Miller direct, when he will answer them here. Please do not ask the Doctor to send answers by mail.—EDITOR.]

Sweet Clover.

1. How many pounds of sweet clover seed does it take to sow an acre?
2. Will it grow on new land very roughly plowed?
3. Which is the better honey-producer, the white or the yellow?

MICHIGAN.

ANSWERS.—1. Sow the same amount of seed that is generally sown of red clover in your neighborhood. Half as much will do if seed is scarce and land plenty. But if you want sweet clover to bloom every year on the same land, you must sow two years in succession, for it is a biennial.

2. Yes, and it will grow on land not plowed at all, if the seed be tramped in by stock.

3. I don't know. Some claim that yellow is better than the white, but the white is better known. It would be a good plan to try both.

Shaken Swarms and Other Old Ideas.

How new that shaken swarm idea is! C. J. H. Gravenhorst gave it more than 30 years ago. Then read J. H. Nellis' catalogs, and the half-Langstroth frames and half-cases way back in the seventies; also in The Exchange. The Gravenhorst swept swarms is an old and well-tried satisfactory practice. I have known of its use 26 or 28 years. Mr. Heddon got lots of his work from the Nellis half-cases.

The old-timers are not all dead yet. Some remember the past use.

CONNECTICUT.

ANSWER.—Yes, forced or shaken swarms are much older than many suppose. The plan is so much in accord with natural swarming, being merely a way of anticipating it, that it is quite the natural thing that one should think of operating by it, and so it comes to pass that probably a good many in different quarters conceived of it independently of each other.

Some Cross Italian Bees.

My bees needed shaking this year, they did not swarm or work, either. I bought 6 colonies in box-hives last winter, and transferred them to Heddon hives. They were blacks, and tartars at that, and I had a job, too. I thought from all I had read that if I put in Italian queens their brood would be gentle, but I was mistaken. They are as pretty as can be, but are just as cross as the blacks were. I dare not take a friend in the garden where they are, as they dispute possession, every time. Why is this?

SOUTH CAROLINA.

ANSWER.—Italians as a whole are gentler than blacks, yet they are not all alike, and sometimes a colony of Italians is anything but remarkable for good-nature. It may be

that you have been unfortunate in getting a colony exceptionally cross. It is also possible that another season you may find them more gentle. The past season was in your locality one to give cause for ill-nature in almost any colony—cool nights with heavy dews and little storing.

Oregon and Washington for Bee-keeping.

Please give what information you can about Oregon and Washington in regard to apiculture. What is the main source for honey? How does that country compare with Minnesota for bees? What about climate and soil?

MINNESOTA.

ANSWER.—These questions are too much for me, and I am not sure just where is the best place to apply for information—possibly by addressing Hon: James Wilson, Secretary of Agriculture, Washington, D. C.

When to Transfer Bees.

I began the bee-business about four months ago. I bought 33 colonies of bees, and find the ones in large hives in better shape than those in the small hives. I have taken as high as 40 pounds of white honey from one hive, and only cut off the hive 6 or 8 inches to put on a super in the spring. I have about 12 colonies to transfer. When would be the best time to transfer them?

TENNESSEE.

ANSWER.—The usual time for transferring is in fruit-bloom, although there is an increasing disposition to defer it till three weeks after the casting of a prime swarm.

Were They Prime Swarms.

I had a swarm of bees issue from the parent hive July 13, and hived them on 10 drawn combs, on the old stand, moving the hive from which they swarmed some distance. On July 14 they swarmed out of the hive; I put them in again, and then took a comb of unsealed larvae and put in the hive, and put them back again. This time they stayed and went to building queen-cells. I tore the queen-cells down, and they built them up again, and on August 4 they swarmed again with the old queen clipped. Were they both prime swarms?

NEBRASKA.

ANSWER.—I don't know. A swarm issuing with a laying queen is usually entitled to the name of "prime swarm," and when such a swarm sends out a swarm the same season, the latter is called a virgin swarm. It looks as if there was something abnormal in the case you mention, the second issue being by dissatisfaction of the bees with their queen, and I don't know enough to say positively as to the proper nomenclature.

Extracting Honey—Comb vs. Extracted.

I see in a catalog that the Cowan Extractor, No. 15, is made for the Langstroth frame, of which the top-bar is 17½ inches long, 9½ inches deep.

1. Can I extract a frame that is not so long?
2. Or from frames not so deep as the Langstroth?
3. Is there more profit in producing extracted than comb honey?

OREGON.

ANSWERS.—1 and 2. Yes, a shorter or shallower frame can be extracted in such an extractor all right.

3. I don't know. In some places one kind, in other places the other kind is the more profitable. The kind of honey may have something to do with it. The man may have a good deal to do with it. There are many bee-keepers who work for extracted honey exclusively, and they probably think that under all the circumstances there is more profit in that kind of honey for them. The same may be said of comb honey. It is possible that no man living can tell which would be better for you without actually trying the two side by side.

Average Income per Colony—Book for Amateurs—Worms in Colonies.

Upon your reply to the following question will depend whether I follow bee-culture as a business, or for pleasure:

1. What is the enclosed sage? Is it a honey-producer?

2. I am situated about 900 feet above valley level, out of the frost-line; within 2 miles, in either direction, are about 1000 acres of enclosed sage, 100 acres orchard (prune and apricot), 3 acres eucalyptus, and large quantities of flowers. How many colonies of bees will they support, there being no bees in any quantity in the neighborhood?

3. What should be the average income per colony?

4. I have "Bee-Keeping for Beginners," by Dr. Brown, and the "Cook's Manual." Would you suggest any other book for an amateur?

5. I have purchased 5 colonies of black bees containing about as many worms as bees. What will I do with them? CALIFORNIA.

ANSWERS.—1. [The enclosed plant is a Fleabane, but too dry and withered to determine the species. It belongs to the Composite family.—C. L. WALTON.]

2 and 3. I don't know. Questions like these are exceedingly difficult to answer. Indeed they have no exact answer. If you should ask me the average yield per colony in my

location for the past five years, I might tell you exactly; but if you ask about the next year or the next five years, I must say I don't know. It may be very much more or very much less. If you can get some one situated as you are to tell you what his results in the past have been, it will give you some data on which to base a guess. Sorry I cannot give you any more satisfactory answer.

4. "Dadant's Langstroth" and Root's "A B C of Bee-Culture" are both worthy of the highest commendation.

5. Go through all the colonies and dig out at least the worst cases. Wherever you see a web of the wax-worm, dig it out. Take a wire-nail, dig open one end of the gallery, then start at the other end and tear it open till you have opened the whole length. That will generally dislodge the worm, which you will dispatch. Do all you can to keep the colonies strong, and as little as possible to weaken them. Weak colonies are the ones that succumb to worms. As soon as you can, Italianize. With strong colonies of Italians you will not need to pay any attention to worms.

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FROM MANY FIELDS

Smoker-Fuel—Wintering Well.

The smoker-fuel question I have watched with a vigilant eye, but I have not seen the kind mentioned that I use. I do not know its real name, but I call it "stump smoke." It grows on the side of old, decayed stumps in the woods. Find it when it is dry; if you gather it then, you will find it the very best fuel for smokers there is. One smoker-full will last and burn from 4 to 9 hours. Try it and report.

Bees are wintering well at this date.

R. J. CARY.

Fairfield Co., Conn., Dec. 29.

Trying Year in Texas.

This year has been a trying time on farmers and bee-keepers. I have 186 colonies of bees, and they went into winter quarters in fine shape. I still live in hopes, if I die in despair. We have had an abundance of rain which brought up the mint crop, and if we have the right season in 1903 we will surely be in the fight on honey.

F. J. R. DAVENPORT.

Ellis Co., Texas, Dec. 26.

Catnip as a Honey-Plant.

I think catnip is one of the best honey-producing plants we have, as it produced some forage for our bees about six months the past season. Where I found it growing the thriftiest, was in an old abandoned quarry, where the sun beats in very warm. There was about two acres of it.

ARTHUR STANLEY.

Lee Co., Ill.

[We can supply catnip seed at 20 cents an ounce, postpaid.—EDITOR]

Paraffin in Bottom of Shipping-Cases.

I have found the use of waxed-paper in the preparation of no-drip cases a little troublesome. I have to send away for it, moreover. Hence the necessity for inventing some other contrivance. It occurred to me that the joinings between the bottom-board and the side and end, and those at the angles for an inch up, might readily be made watertight by the use of paraffin. I tried the experiment just now. With a small iron plane I made some paraffin shavings. These I put in an empty tin box, that had been used for holding belladonna plaster, and melted. I then poured a small quantity of this liquefied paraffin into one corner of a case, and by tilting it as required (the case, I mean,) I caused the paraffin to flow all around in the angles at the four corners. This scheme worked very

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for 1903, "How to Make Money With Poultry and Incubators." Size 8x11 inches, 196 pages. Contains among its many other invaluable things for Poultrymen the following **Special Chapters**: I. Starting With an Incubator; II. Handling Chicks in an Incubator; III. Feeding the Chicks; IV. Duck Producing on a Large Scale; V. Broiler Raising; VI. Profitable Egg Farming; VII. The Egg and Poultry Combination; VIII. Egg and Fruit Farming; IX. Scratching Shed House Plans; X. Incubator and Brooder House Plans; XI. Feeding for Eggs, and XII. Standard Bred Poultry. We usually request 10 cents to pay for the mailing of this book, but for the next 50 days we will mail it free to any one who will mention this paper in writing. Better write now, "lest you forget." Address nearest office.

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nice, indeed. All that now seems necessary to perfect the arrangement will be to put some excelsior in the bottom of the crate on which rests the cases. I leave the plan with you to speak for itself, free from any restriction as to whatever use you see to make of it.

At preserving-time, I find the plane a convenient instrument for making the paraffin shavings, which my wife uses by putting them in the jelly tumblers and before she pours in the hot jelly or fruit.

DR. W. O. EASTWOOD.
Ontario, Canada, Dec. 19.

Prefers 10-Frame Hives.

I started last spring with 19 colonies, and increased to 37, which I have in the cellar, having put them there Nov. 26, in good shape.

My honey crop was light; I had only 180 pounds of section honey, which I run for altogether. I look for a good honey crop next season. I never saw as much white clover as there is now.

As to the hives that suit me, I prefer the "Wisconsin" to all others. I bought 11 Danzenbaker and 5 Wisconsin last spring, and find I like the Wisconsin the better; the Danzenbaker is too shallow. I found that my bees swarmed twice as much in 8-frame hives as they did in 10-frame. I will not use any but 10-frame hives in the future.

As to wintering bees in the cellar, I had such good luck last winter that I am trying it again. I put a ventilator 9 by 13 inches in it, so I can ventilate it to suit me.

E. B. PRITCHETT.

Warren Co., Iowa, Jan. 5.

An Old Subscriber.

I commenced in the days of Wagner, and have taken the American Bee Journal about all the time since, and am now over 80 years old. It is much better today than it has ever been before. Long may it live.

J. W. ROBINSON.

Columbia Co., Wis., Dec. 2.

Queen-Rearing.

They say that in a multitude of counsellors there is safety, but I tell you that as far as queen-rearing is concerned, Gallup, Alley, Doolittle, etc., have got me where I hardly know where I am at. I rear queens only for my own use, but I want the best that can be reared. I have tried nearly all the methods given, with varying results, during the last few years, and have thought that I had settled down to the best way to rear queens, but now comes a host of old veterans (as witness the last volume of the American Bee Journal) and almost quarrel over the way queens should be reared. So you see where it places us ordinary mortals, who just begin to think we know something. But let them come, and while you are about it, let W. H. Laws finish what he promised us on page 598 of the American Bee Journal for 1902.

Yours for further enlightenment,

L. L. TRAVIS.

Wyoming Co., Pa., Dec. 30.

[All right, there are no laws, as far as we know, against Mr. Laws finishing the queen-rearing story he began. He can send on more of it any time he finds time to write it out.—EDITOR.]

Didn't Get Any Honey.

This is the first year since I commenced to keep bees that I did not get any honey—not one pound from 45 colonies; but everything looks favorable for next year. 1901 was too dry, and 1902 too wet, but I got 800 pounds in 1901.

JOHN A. BLOCHER.

McLean Co., Ill., Dec. 27.

Swarming—Light Honey-Yield.

Although 85 years old next month, I still keep a few colonies of bees, not for the profit but for pleasure and pastime. I live in the city and have not room for more than 30 or 40 colonies. I run them for comb honey. I con-

trol swarming by destroying the queen-cells; if they should swarm, I always save them. I have not had a swarm abscond for 15 years. I watch them closely, and as soon as they are all out I open the old hive and take out a frame of brood, place it in a new hive with frames and starters, and put it near where they are about to alight. Quite often they go in without alighting; if not, shake a few of them in front of the hive. As soon as they are in the hive move it slowly to the place where it is to remain for the season. The scouts come back and find the swarm gone, fly around until discouraged, and go back to the old home. In about 3 days I put on a super with sections and foundation.

The past season was very light in the honey-yield. I had 22 colonies, spring count, got an average of 40 pounds per colony, and sold it at home at 15 cents for full pound sections. I cannot do without the "old reliable" American Bee Journal. JOHN CLINE.
Lafayette Co., Wis., Dec. 31.



Forced Swarm from Two Colonies.

The following plan, given by J. E. Crane, in Gleanings in Bee-Culture, will suit some who want to increase:

Some place their bees out in the spring in pairs, two colonies close together; and when the swarming season arrives one of these colonies is shaken into a new hive, while the other is removed to a new location, and given the brood-combs from the one from which the bees have been shaken. Thus, one new colony receives all the bees from one old one, and all the mature bees of the other with surplus boxes, etc.

A little later, however, the colony having the double allowance of brood will need another shaking to prevent swarming. Here is the plan given by L. Stachelhausen, in the same paper:

These artificial swarms can be used in different combinations. For instance, to prevent swarming in out-apiaries I use the following management, which Doolittle recommended some years ago: The strongest colonies are brushed or shaken on starters on the old stand. The brood-combs and a queen from a nucleus in a Miller cage, closed with candy, are set on the place of another strong colony, and this is set on a new stand. In this way swarming is prevented in too strong colonies.

For comb honey we need very strong colonies, so we can shake all the bees from two strong colonies into one hive, and set this swarm on the stand from which it received the queen. The brood-combs of both colonies are set on the stand of the other colony, without the queen. With the queen, if she is a good one, and one or two brood-combs, we can form a nucleus. Ten days later this colony is brushed off, and the old or a young queen introduced. So we have two strong colonies which can be used for comb-honey production, and a number of combs containing capped brood, which can be used for quickly strengthening nuclei or other weak colonies.

Bacillus Alvei and Mesentericus.

Are they the same? Dr. Lambotte thinks he has proven that they are; our "After-thinker" is skeptical; Adrian Getaz also demurs. In the American Bee-Keeper, besides giving reasons for some doubt, he gives so succinctly the reasons for Dr. Lambotte's belief that it is worth while to quote at length, as follows:

The bacillus mesentericus is not always, and, in fact, not often met in decomposed and



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putrefying substances. Wet bread and cold cream are the substances on which it is usually seen. The numerous germs which are always present in the air, and so rapidly decompose dead substances, belong nearly all to another order of beings.

Briefly, the arguments presented by Dr. Lambotte are these:

1. The bacillus mesentericus and bacillus alvei have the same shape, the same size, and present the same arrangement when cultivated.

2. Both bacilli produce (out of the matter in which they live) a ropy, glue-like substance.

3. Both have the same effect on the serum of the blood, when injected in the veins of an animal. This last consideration is presented by Prof. Lambotte as conclusive.

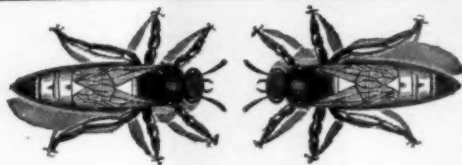
4. A "culture" of bacillus mesentericus was spread over some brood to give them the disease. The larvae were killed, but after three days the bees had cleaned them out, and no further damage was observed. This experience was repeated a number of times with invariably the same result.

Prof. Lambotte then tried another plan. He took a number of larvae, ground them, and made a "culture" with it. In this culture he introduced some bacilli mesentericus—repeated the operation on the same set several times, so as to get them used to that kind of food. These are not the terms that he used, but it is the meaning. Then he applied the culture to a comb of brood. The result was, that about one-fifth of the larvae were diseased, and the remainder had been cleaned out by the bees, when examined.

Well, as Dr. Miller says sometimes, "I don't know," but, judging by Dr. Lambotte's own report, I should rather think he is wrong.

As to this first item, I may say that the two bacilli, though apparently identical, may yet be different. Bacilli are very small things, and only their general size and shape can be ascertained under the microscope. It is very much like looking at two men at a distance of a quarter of a mile with our natural eyes. Their general size and shape can be seen, but all the details of the face, hands, etc., escape our sight entirely.

As to the second point, while the products obtained are in both cases ropy, glue-like, and of about the same consistency and color, they may yet not be identical. And if they were it would not be impossible that two dif-



Forty Years Among the Bees

By DR. C. C. MILLER.



DR. C. C. MILLER.

The above is the title, and name of the author, of a new bee-book which will be ready early in February, 1903, as it is now in the hands of the printers. It is a book that every bee-keeper in the world that can read English will want to own and read. It will contain over 300 pages, be bound in handsome cloth, printed on good book-paper, and illustrated with over 100 beautiful original half-tone pictures, taken by Dr. Miller himself. The book will show in detail how Dr. Miller does things with bees.

The first few pages of the new book are devoted to an interesting biographical sketch of Dr. Miller, which finally tells how he happened to get into bee-keeping. Seventeen years ago he wrote a small book, called, "A Year Among the Bees," but that little work has been out of print for a number of years. While some of the matter used in the former book is found in the new one, it all reads like a good new story of successful bee-keeping by one of the masters.

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The price of this new book is \$1.00, post-paid; or, if taken with the WEEKLY American Bee Journal for one year, BOTH will be sent for \$1.75.

Or, any present regular subscriber to the American Bee Journal whose subscription is paid in advance, can have a copy of Dr. Miller's new book free as a premium for sending us Two New Subscribers to the Bee Journal for one year with \$2.00. This is a magnificent offer. Better send in the new subscriptions before Jan. 1, so they can begin with the new year. Or, if sent at once, we will throw in the rest of this year's numbers of the Bee Journal free to the new subscribers.

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\$8 1/30
Steel Beam Cultivator, plain, with 5 shovels. \$2.10



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Mathews New Model garden drill, large size with 11 tools. \$4.75 only, same principle as above. If you want a garden tool, write us.



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Calumet check row planter with automatic reel and 80 rods wire. Never misses, drops in hills and dills. We challenge the world with this planter. Will ship on trial.



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for this 2 horse cultivator. Re-tails at \$15 to \$18. \$15.95 for riding cultivator. Seven styles, 25 combinations. Most Wonderful Cultivator Bargains ever offered. Also Plows.



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ferent bacilli could produce the same substance.

The fourth item seems to me a clincher against the Professor. A culture of bacillus alvei from a diseased colony applied to sound brood, as the Professor did, would have, in each and every instance, developed a raging case of foul brood, while the application of a culture of bacillus mesentericus failed to produce any disease. However, I do not want to be too dogmatic. The Professor says that some of his attempts at introducing the bacillus alvei also failed.

The fifth item is not very conclusive. One-fifth of the larvae got sick, and very sick at that, and their sickness was almost, if not altogether, like foul brood. Still, it might not have been foul brood. We might prepare a concoction of putrid meat, "embalmed beef," or such things like that, which, when eaten, might produce a sickness very much like cholera morbus, and yet it would not be a case of cholera morbus.

If that fifth of the larvae which got sick were really a case of foul brood, the whole colony would become diseased entirely in the course of a few months. Unfortunately nothing is said on that point.

In view of this failure to develop foul brood by inoculating cultures of bacillus mesentericus, it may seem strange that Prof. Lambotte still insists that it is the same bacillus which produces foul brood. He claims, however, that the spores are probably always present, and only develop when the conditions are favorable, that is, lack of proper food, too much dampness, etc.

Those who know how rapidly foul brood spreads throughout a whole apiary even when the colonies are in the very best condition, are not likely to accept such an explanation.

Rules for Making Forced Swarms.

1. Don't brush unless it is very strong.
2. Don't brush unless there is a good flow, or to control the swarming fever, as perhaps you will have to do at times.
3. Be sure that the bees gorge themselves with honey.
4. If you don't leave a few old bees in the old hive you must not shake out the thin unsealed honey, for the young bees use it as a substitute for water, and, of course, the force left will all be needed to nurse the brood.
5. If you use any drawn comb in the supers, and none in the brood-chambers, you will catch some pollen. Unless an excluder is used, the queen will go above and lay in the sections that contain drawn comb.
6. Don't use an excluder if you can avoid it, as it tends to discourage the bees from promptly entering the supers.
7. Have your hive level and shaded.
8. Be sure to reinforce the swarm with another drive from the old hive within seven days.—J. E. CHAMBERS, in Gleanings in Bee-Culture.

CONVENTION NOTICES.

Wisconsin.—The Wisconsin State Bee-Keepers' Association will meet Feb. 4 and 5, in Madison, Wis. Special program prepared. Excursion railroad rates and special hotel rates secured. N. E. FRANCE, Pres.

New York.—The annual meeting of the Oswego County Bee-Keepers' Association will be held at Fulton, N. Y., Saturday, March 7, 1903. Prof. Frank Benton will be present and address the meeting. An interesting program is being prepared, and all persons interested in bees are cordially invited to be present.

MORTIMER STEVENS, Pres.
CHAS. B. ALLEN, Sec.

Michigan.—The Michigan State Bee-Keepers' Association will hold its annual convention Feb. 3 and 4, 1903, in the Council Rooms of the City Hall, at Lansing. The rooms are in the third story, back away from the noise of the street, yet they can be reached by the elevator.

Arrangements have been made at a nice, clean hotel, the Wentworth House, only two blocks from the place of meeting, where bee-keepers will be accommodated at \$1.50 a day.

The Michigan State Dairymen will hold their convention at the Agricultural College, Lansing, on the same dates, as also will the State Veterinarians, thus enabling the members of all three societies to come at reduced rates. When buying your ticket you will pay full fare, and ask for a certificate "on account of Michigan Dairymen's Convention," as the secretary of this convention is to sign the certificates for all three of the conventions. This certificate will enable you to go back at one-third fare.

The first session will be on the evening of the 3rd, when E. R. Root will show us "Bee-Keeping from the Atlantic to the Pacific, as seen through the Camera and Stereopticon." This will consist of portraits of distinguished beekeepers, of apiaries, hives, implements, methods, etc., all fully explained. A more enjoyable entertainment for a bee-keeper can not be imagined.

Mr. C. A. Huff, who has been experimenting the past season with formalin for curing foul brood, has promised to be present. Messrs. Soper and Aspinwall are not far away, and will probably be present. Mr. Aspinwall has kept about 70 colonies for the past 10 years, without losing a colony in winter. He can tell us how he has prevented this loss; also how he prevents swarming. Mr. T. F. Bingham, who has been so successful wintering bees in a cellar built like a cistern, is also expected. Messrs. A. D. D. Wood and J. H. Larrabee will help to make the meeting a success.

This is the first time that the convention has been held in the Southern part of the State in several years; let us turn out and show our appreciation of the event.

W. Z. HUTCHINSON, Pres.

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51Atf Please mention the Bee Journal.

HONEY AND BEESWAX

MARKET QUOTATIONS.

CHICAGO, Jan. 9.—The demand is not more than usual; hence stocks are sufficient, especially as Cuba has now comb honey on this market. This is a new source of supply, and is a factor that must be reckoned with, as it obviates the necessity of laying in a stock during the summer and autumn to draw from in the winter and spring months. The best grades of white comb sell at 15@16c per pound, with travel-stained and light amber, 13@14c; darker grades, 10@12. Extracted, 7@8c for white, and 6@7c for ambers. Beeswax steady at 30c.

R. A. BURNETT & Co.

ALBANY, N. Y., Jan. 7.—Honey demand and receipts light. We quote white comb, 15 cents; mixed, 14c; buckwheat, 13@14c. Extracted, white, 7@7½c; dark and buckwheat, 7@7½c. More demand for buckwheat than any other here.

H. R. WRIGHT.

KANSAS CITY, Dec. 20.—Market steady at quotations. We quote fancy white comb, per case, 24 sections, \$3.50; No. 1 at \$3.40; No. 2 white and amber, \$3.25. Extracted, white, per pound, 7@7½c; amber, 6@6½c. Beeswax, 27@30c.

C. C. CLEMONS & Co.

CINCINNATI, Jan. 7.—The demand for all kinds of honey has fallen off considerably in the last few weeks, owing to the many other sweets offered at this season of the year. Lower prices are no inducement to increase the consumption, as the demand is not there, and will not be until about the end of the month; consequently it is folly to offer at lower prices. We quote amber extracted in barrels at 5½@6½c; white clover and basswood, 8@9½c. Fancy white comb honey, 16@17c; lower grades hard to sell at any price. Beeswax firm at 29@30c.

THE FRED W. MUTH CO.

NEW YORK, Dec. 23.—The market on comb honey is dull and inactive. While the supply is not large the demand has fallen off to a large extent and prices show a weakening tendency. We quote fancy white at 15c; No. 1, 14c; No. 2, 13c; and buckwheat at from 10@12c. Extracted is in fairly good demand; white, 7½c; light amber, 6½@7c; dark, 5½@6c. Beeswax firm at from 28@29c.

HILDRETH & SORLENN.

CINCINNATI, Jan. 3.—The comb honey market is a little quiet, almost everybody being filled up. As there is hardly any new supply in, there is no change in prices, viz.: Fancy water-white, 16c; off grades less. The market for extracted white clover shows a slight advance. Fancy water-white brings 8½@9c; alfalfa water-white, 6½@7½c; amber, in barrels, 5½@5½c. Beeswax, 27@28c.

C. H. W. WEBER.

SAN FRANCISCO, Dec. 17.—White comb honey, 11½@12½c; light amber, 10@11c; dark, 5@6½c. Extracted, white, 6@6½c; light amber, 5@5½c; amber, 4@4½c. Beeswax, good to choice, light, 26@27½c; strictly fancy light, 29@30c.

The bulk of California produced honey is sold for Eastern shipment in carload lots from producing points at bottom price. Small lots of choice honey that can be used in local trade bring more. Quotations here given are current prices to producer, f.o.b. shipping point, on Eastern basis for extracted and California basis delivery point subject to agreement for comb.

WANTED WHITE CLOVER EXTRACTED HONEY!
Send sample and best price delivered here; also Fancy Comb wanted in no-drip cases.

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A sample by mail, 10c for package and postage. By freight, f.o.b. Chicago: 1 box of 2 cans (120 lbs.) at 8½c a pound; 2 boxes or more (4 or more cans), at 8c a pound. We can furnish Basswood Honey at ½c a pound more. (These prices are for selling again).

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A. I. ROOT CO.,
Medina, Ohio.**The New Danzenbaker Nailless Cover.** This is one which we believe will become very popular. It is a reversible flat cover. The **FLAT** cover is preferred by many large bee-keepers. It is metal-bound and already put together before leaving the factory. See catalog for illustration. This can be ordered for our regular Dovetailed hive either 8-frame or 10-frame. Investigate the merits of this cover before placing your order.**The "A" Bottom-Board.** This is something entirely new this season. It consists of a 2½-inch rim with a tilting floor-board, allowing an adjustment of depth of entrance to suit season or individual preference of user. This bottom will also be found very valuable for cellar-wintering, and for moving bees there is nothing equals it for convenience and safety. Mr. F. A. Salisbury, of Syracuse, N. Y., a bee-keeper and supply-dealer of over 25 years' experience, says: "The new style 'A' bottom can NOT BE BEAT. We put up one, and it is THE THING."**German Wax-Press.** This we've improved since a year ago, placing a heavy oak cross-arm above in place of cover-plates. We believe it is perfect in construction.**Cornell Smoker** for 1903 has a new nozzle which is not inclined to topple over at the most inopportune time; this nozzle is supplied with wire-coil handle. The bellows is bound with projected metal bindings which protect the leather, strengthen the bellows-boards, prevent warping of same, and form a very convenient hold in operating the smoker. The general plan is the same as heretofore, but these added improvements make it much superior to anything we have formerly supplied. Made in three sizes. Prices: Jumbo, \$1.25; Standard, 85c; Junior, 65c. Postage, 25c extra.**Vesuvius Smoker.** This is the name of the new smoker we are preparing to furnish this year, which is entirely different from anything we have heretofore offered. It is a breech-loading hot-blast, with removable grate attached to cover. The nozzle of this smoker is fastened permanently to barrel. This has same metal binding as the new Cornell. Price, \$1.00; postage, 25c extra. See illustration in the catalog.**Brass Smokers.** We can supply the Cornell, Vesuvius, and large-size Bingham smokers with brass stoves at 25c each additional.**Super Springs.** The supers sent out this season will contain removable springs instead of the stationary springs as formerly supplied.**Other Goods.** We are always on the lookout for improvements in bee-keepers' supplies, etc., and will introduce such as soon as we are satisfied of their superiority over the ones now in use.**Agencies** carrying a stock of our hives, etc., will be supplied with these improvements in good time for this season's trade. If you are not posted as to where you can buy our supplies advantageously, write us.**GEORGE W. YORK & CO.** 144 & 146 Erie Street, CHICAGO ILL., are headquarters for ROOT'S BEE-KEEPERS' SUPPLIES IN CHICAGO. Send to them for their free Catalog.